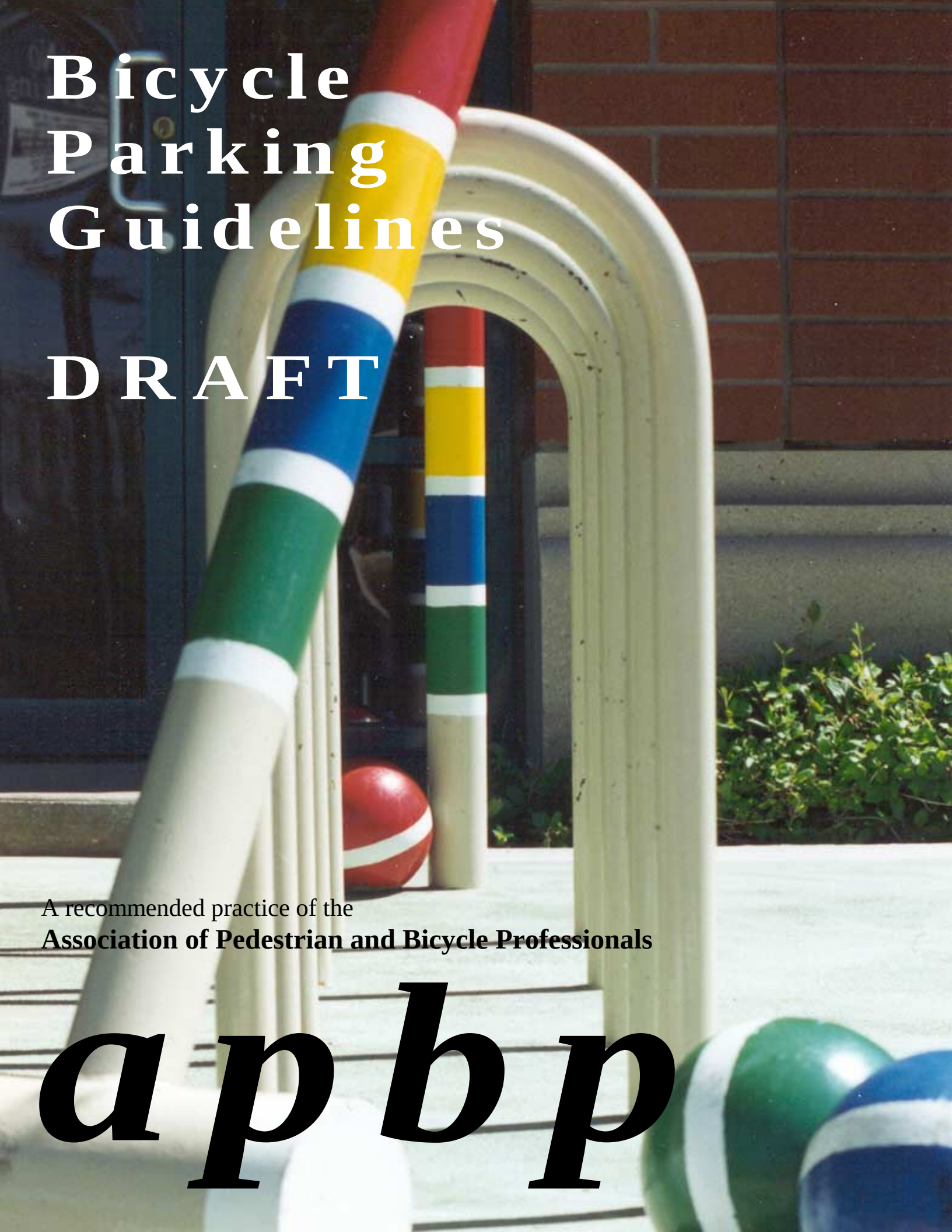

Bicycle Parking Guidelines

DRAFT

A recommended practice of the
Association of Pedestrian and Bicycle Professionals

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Association of Pedestrian and Bicycle Professionals
Bicycle Parking Guidelines
Adopted: (date)

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Bicycle Parking Guidelines

"I would ride to work if there was a safe place to lock my bike."

Introduction

The lack of a secure parking space keeps many people from using their bikes for basic transportation. Leaving a bicycle unattended, even for short periods, can easily result in damage or theft. Finding a bike rack that doesn't work or isn't conveniently located makes for a frustrating experience.

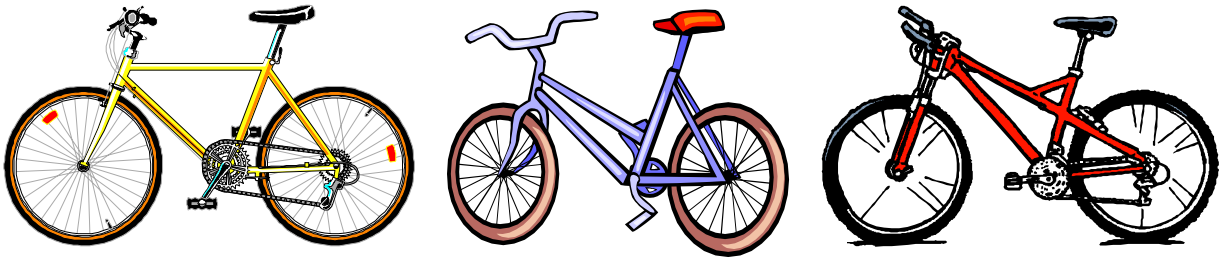
The purpose of this document is to assist with the selection and placement of appropriate bicycle racks for short-term parking. Four major components will be discussed. The first is the rack element. This device supports the bicycle. The second is the rack. It is important to understand how bikes interact with each other when rack elements are assembled together. The third topic is the combining of multiple racks into a bicycle parking lot. The fourth area of discussion is the siting of the rack and its relationship to the entrance it serves and the cyclists' approach to that entrance.

The discussion will focus on outdoor installations. The racks are intended to accommodate conventional, upright, single-rider bicycles. It is assumed the cyclist will use a solid, U-shaped lock or cable.

The Rack Element

A rack element is the part of a bike rack that supports one bike.

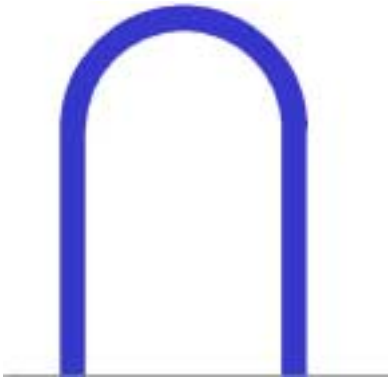
The rack element should support the bike upright by its frame. Comb, toast, and other wheel bending racks that provide no support for the bicycle frame are not recommended. The rack element should support the frame even if the bicycle does not have a diamond frame with a horizontal top tube like the bike on the left in the figure below. The other two bikes are examples of alternative frame types.



The rack element should prevent the bike's front wheel from flopping over. It should support the bicycle frame in two places and enable the frame and one or both wheels to be secured.

The rack element should allow for both front-in and back-in parking. For front-in parking, enable U-locking where the front wheel nears an upright bike's down-tube. For back-in parking, enable U-locking where the rear wheel nears the bike's seat tube.

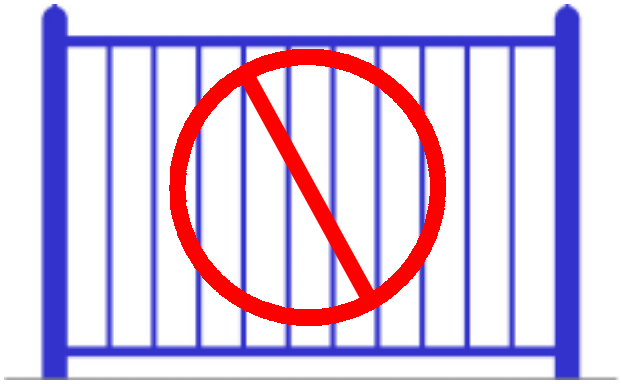
The rack element should resist being cut or detached using common hand tools, especially those that can be concealed in a backpack. Such tools include bolt cutters, pipe cutters, and pry bars.



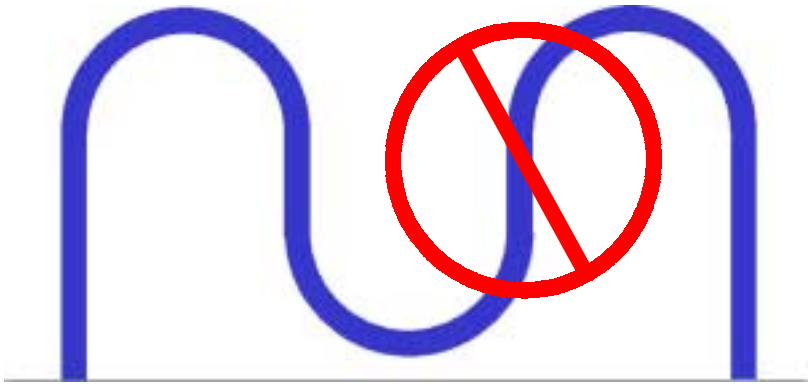
Inverted "U"
One rack element
supports two bikes.

"A"
One rack element
supports two bikes.

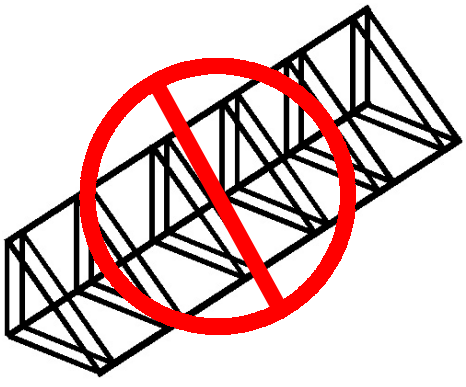
Post and Loop
One rack element
supports two bikes.



Comb
One rack element is a vertical
segment of the rack.



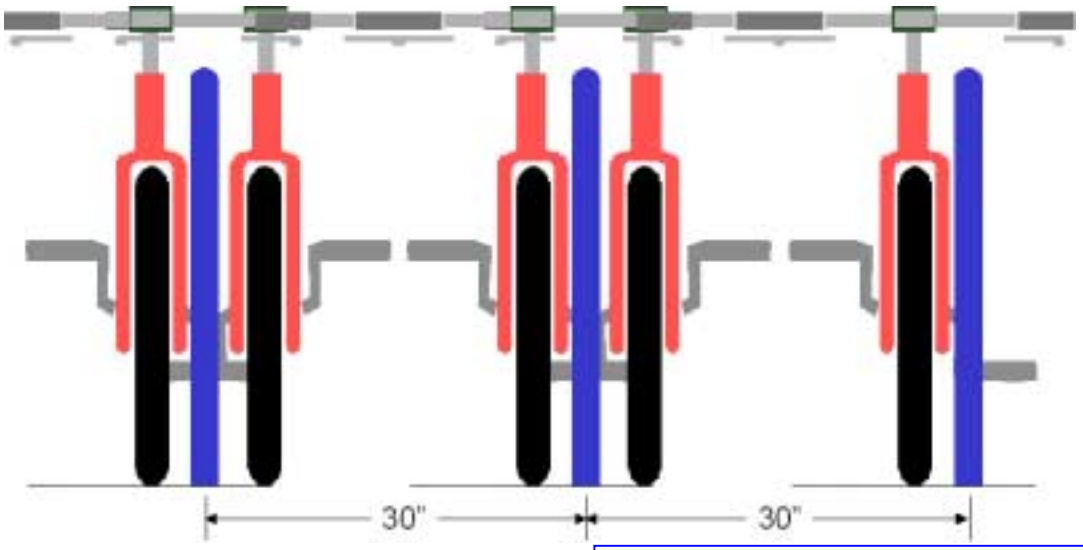
Wave
One rack element is a vertical
segment of the rack.



Toast
One rack element holds
one wheel of a bike.

Not recommended

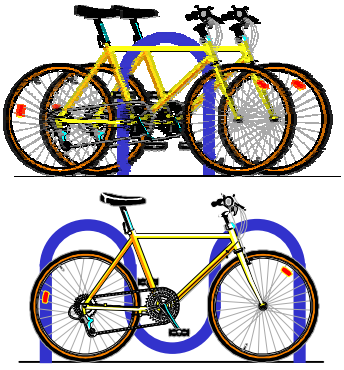
The Rack



A rack is one or more rack elements joined on a common base or arranged in a regular array and fastened to a common mounting surface.

The rack should consist of a grouping of rack elements that support the bike upright by its frame. The rack elements may be attached to a single frame or remain single elements mounted within close proximity to each other. The rack elements should not be easily detachable from the rack frame or easily removed from the mounting surface. The rack should be anchored so that it cannot be stolen with the bikes attached. An exception is a rack that is so large and heavy that it cannot be easily lifted into a truck with the bikes attached.

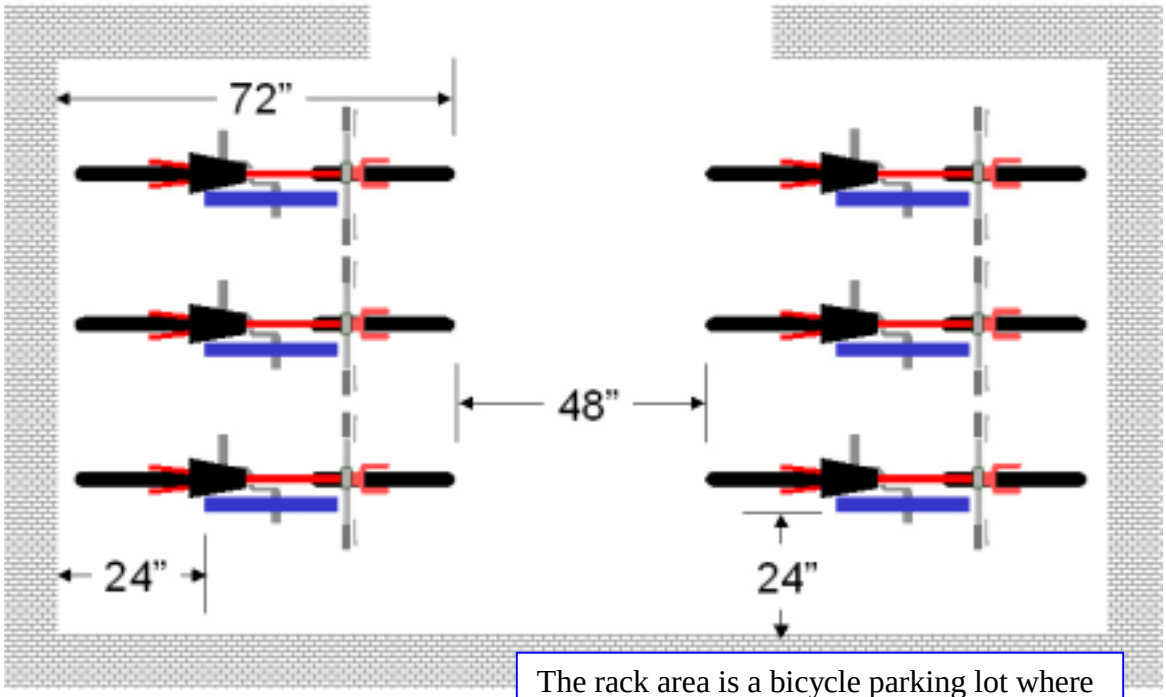
The rack should provide easy, independent bike access. Inverted "U" rack elements mounted in a row should be placed on 30" centers. This allows enough room for two bicycles to be secured to each rack element. Normally, the handlebar and seat heights will allow two bicycles to line up side-by-side if one of them is reversed. When there is a conflict, the bikes can be placed slightly offset from one another as shown. If the elements are placed too close together, it becomes difficult to attach two bikes to the same element. If it is too inconvenient and time consuming to squeeze the bikes into the space and attach a lock, cyclists will look for an alternative place to park or use one rack element per bike and reduce the projected parking capacity by 50 percent.



Wave style racks are not recommended. It is very common for a "wave" rack to be used as if it were a single inverted "U." This limits the actual capacity of the rack to two bikes regardless of the potential capacity. Bicycles parked perpendicular to a wave rack are not supported in two places and are more likely to fall over in the rack. The advertised capacity of a wave rack is usually much higher than the practical capacity.

An empty rack should not create a tripping hazard for visually impaired individuals.

The Rack Area



The rack area is a bicycle parking lot where racks are separated by aisles.

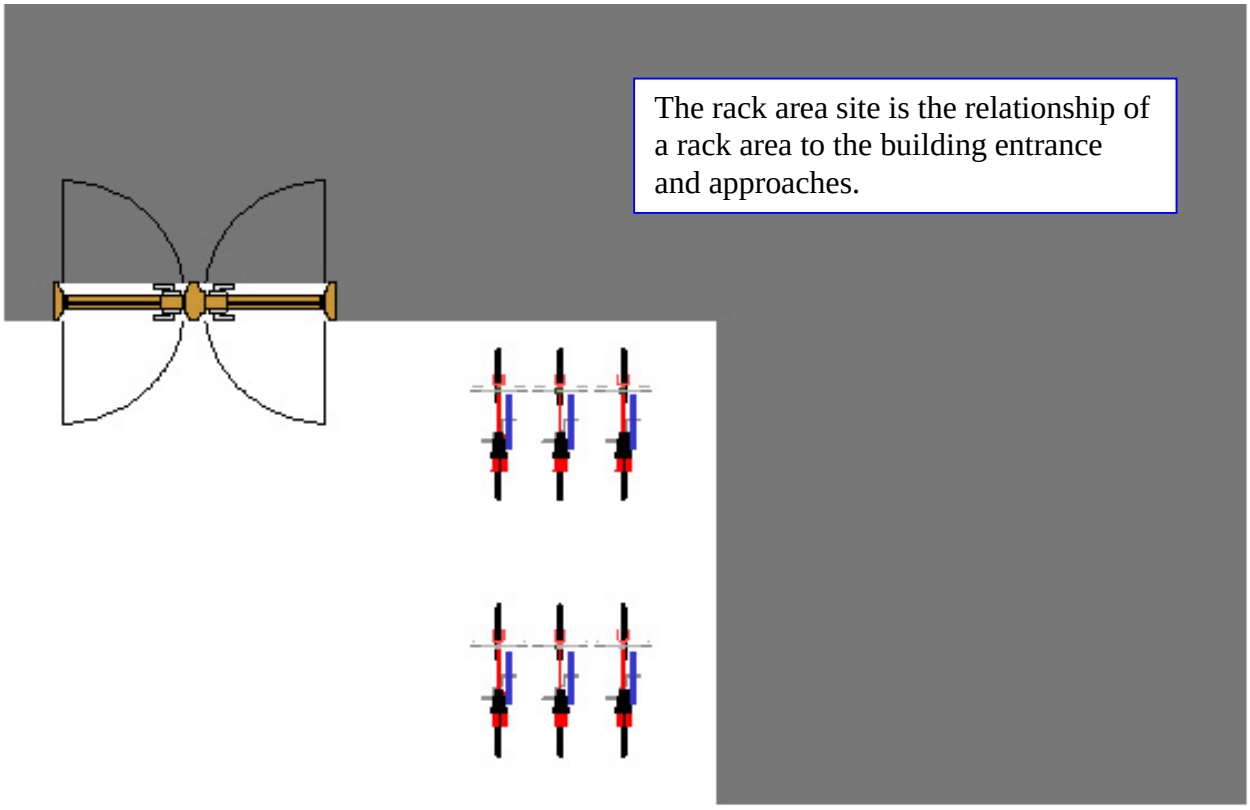
A rack area or "bicycle parking lot" is an area where more than one rack is installed. The racks are separated by aisles. The aisle is measured from tip to tip of bike tires across the space between racks. The minimum separation between aisles should be 48 inches. This provides enough space for one person to walk one bike. In high traffic areas where many users park or retrieve bikes at the same time, such as a college classroom, the recommended minimum aisle width is 72 inches.

72 inches of depth (six feet) should be allowed for each row of parked bicycles. Conventional upright bicycles are just less than 72 inches long and can easily be accommodated in that space. Some rack types will allow the racks to be mounted closer to the wall. This will not change the space required by the bicycles or the aisles.

Large rack areas with a high turnover rate should have more than one entrance. This will help facilitate the arriving and departing of cyclists and pedestrians.

If possible, the rack area should be protected from the elements. Racks along building walls can be sheltered by an awning. Even though cyclists are exposed to sun, rain, and snow while en route, covering the rack area keeps the cyclist more comfortable while parking, locking the bike, and loading or unloading cargo.

The Rack Area Site



The siting of a rack area in relationship to the building it serves is very important. The best location for a rack area is immediately adjacent to the entrance it serves. Racks should not be placed so that they block the entrance or inhibit pedestrian flow in or out of the building. Racks that are far from the entrance, hard to find, or perceived to be vulnerable to vandalism will not be used by most cyclists.

It is important to understand the transition a cyclist makes from vehicle to pedestrian. The cyclist approaches the building mounted on the bicycle. At some point, the cyclist stops, dismounts, and walks the bike to a rack. The bicycle is attached to the rack and any cargo is removed. The cyclist now walks into the building carrying the cargo. Adequate space must be provided to allow for this transition.

The rack area should be located along a major building approach line and clearly visible from the approach. The rack area should be no more than a 30-second walk from the entrance it serves. This would place racks within 120 feet of the building entrance.

A rack area should be as close or closer than the nearest car parking space. A rack area should be clearly visible from the entrance is serves. A rack area should be provided near each actively used entrance. In general, multiple buildings should not be served with a combined, distant rack area. It is preferred to place smaller rack areas in locations that are more convenient.

There are a number of creative, three-dimentional racks that work very well. Whether the rack is a type of "hanger," "helix," or another configuration, it is important that it is important that it support the bike in two places and allow for the bicycle to be properly locked.